Appendix G
Wetland Delineation Report

WETLAND DELINEATION REPORT

VEOLIA ES EMERALD PARK LANDFILL

CITY OF MUSKEGO, WAUKESHA COUNTY, WISCONSIN

December 1, 2005
Revised December 8, 2008

NRC Project # 05-235

NATURAL RESOURCES CONSULTING, INCORPORATED
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1/138

WETLAND DETERMINATION AND DELINEATION REPORT

Veolia ES EMERALD PARK LANDFILL
CITY OF MUSKEGO
WAUKESHA COUNTY, WISCONSIN

December 1, 2005
Revised December 8, 2008

Prepared For:

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NRC Project # 05-235

Brian J. Kurzawski
_____for
Jerry Kelly
Senior Scientist

TABLE OF CONTENTS

Figure 3 – Project Location and WWI Data
Figure 4 – Project Location and Field Data
Figure 5 – Revised Wetland Boundary – Wetland 4

Appendix A – US Army Corps of Engineers Data Sheets
Appendix B – Minutes from WDNR Field Meeting, November 12, 2007
Appendix C – FSA Historical Aerial Review

INTRODUCTION

Natural Resources Consulting (NRC) conducted a wetland determination and delineation on the Veolia ES Emerald Park Landfill Property (the "Property") on October 25-28, 2005 and November 29, 2005. The Property includes approximately 395 acres in Section 36, Township 5 North, Range 20 East, Waukesha County, Wisconsin. The Property lies in the southeastern part of the City of Muskego, Wisconsin (Figure 1).

The objective of the wetland determination and delineation was to provide an estimate of the extent and spatial arrangement of wetlands within the Property. Most wetlands are considered waters of the U.S. and are therefore subject to regulation under the Clean Water Act (CWA). Specifically, non-isolated wetlands are regulated under Section 404 of the CWA and the jurisdictional regulatory authority lies with the United States Army Corps of Engineers (USACE). Additionally, the Wisconsin Department of Natural Resources (WDNR) has regulatory authority over wetlands, navigable waters, and adjacent lands under Chapter 30 Wisconsin State Statutes, Act 6, and NR 103 Wisconsin Administrative Code. The City of Muskego and/or Waukesha County may have additional regulatory authority through shoreland or wetland zoning ordinances.

NRC understands the requested services to include:

1. Complete wetland determinations within the Property.
2. Flag wetland/upland boundaries within the Property.
3. Survey wetland boundaries with a GPS.

METHODS

Wetland Delineation

The initial steps in the wetland determination and delineation process included a review of the following documents:

- Natural Resources Conservation Service (NRCS), formerly the Soil Conservation Service (SCS), excerpts from *Soil Survey of Milwaukee and Waukesha Counties, Wisconsin*;
- NRCS list of hydric soils for Waukesha County;
- U.S. Geological Survey 7.5 minute Wisconsin quadrangle map; and
- The Wisconsin Wetland Inventory (WWI) Map for the area.

These documents provide information on where wetlands have been previously identified or areas that possess a high likelihood of wetlands occurring. These initially identified areas were then visited to make on-site determinations, and where necessary, complete delineations of the uppermost wetland boundary.

Wetland determinations were made using the criteria and methods outlined in the USACE Manual (USACE 1987), subsequent guidance documents (USACE 1991, 1992), Guidelines for Submitting Wetland Delineations in Wisconsin to the St. Paul District Corps of Engineers (USACE 1996), and the Basic Guide to Wisconsin's Wetlands and their Boundaries (Wisconsin Department of Administration Coastal Management Program 1995). The U.S. Army Corps of Engineers and U.S. Environmental Protection Agency wetland definition is included below.

> "Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions."

The State of Wisconsin wetland definition differs slightly; however, their code also cites the usage of the 1987 Manual.

Wetland determinations were made using the three criteria of assessment approach defined in the 1987 Manual. According to procedures described in this Manual, areas that under normal circumstances reflect a predominance of hydrophytic (water loving) vegetation, hydric soils, and wetland hydrology (e.g., inundated or saturated soils) are considered wetlands. Since the wetland boundaries at the Property were relatively abrupt, the Routine Method for Small Areas was employed.

A preliminary reconnaissance of the Property was used to determine the general topography and plant communities at the Property and to identify suitable locations for sampling transects. In general, transects are linear features aligned perpendicular to site contours such that they cross representative locations of wetlands and adjacent uplands. The three criteria were evaluated by placing an observation point within a representative location of each plant community encountered along the transect.

At each observation point:

1. The presence or absence of normal circumstances was determined.

2. The plant community was characterized by identifying dominant plant species using the "50/20" rule. For each stratum in the plant community, dominant species are the most abundant (when ranked in descending order of abundance and cumulatively totaled) that immediately exceed 50% of the total dominance measure for the stratum, plus any additional species comprising 20% or more of the total dominance measure for the stratum.

   Wetland indicator status is ranked by percent probability of the species occurrence in wetlands as follows:

   OBL = Obligate Wetland, occurs with an estimated 99 percent probability of occurrence in wetlands

   FACW = Facultative Wetland, estimated 67 to 99 percent probability of occurrence in wetlands

   FAC = Facultative equally likely to occur in wetlands and non-wetlands (34 to 66 percent probability)

   FACU = Facultative upland, 67 to 99 percent probability in non-wetlands, 1 to 33 percent in wetlands

   UPL = Obligate Upland, greater than 99 percent probability in non-wetlands in this region

   NI = No indicator, insufficient information available to determine an indicator status

   Wetland indicator status can be modified with a positive sign (+) to indicate a frequency toward the higher end of the category, while a minus sign (-) indicates a frequency toward the lower end of the category (Resource Management Group, 1995);

3. Soil pits were dug to a depth of at least 18 inches when possible, and the soil was evaluated for hydric soil characteristics; and

4. Hydrology was assessed by observing for primary (i.e., inundation, saturation within the root zone, water marks, etc.) and secondary (i.e., oxidized pore linings, water stained leaves, etc.) indicators of wetland hydrology.

The transects were initiated at a representative location within each wetland to first complete the wetland determination. The uppermost wetland boundary was identified once an upland site was encountered along the transect. The uppermost wetland boundary was flagged using consecutively numbered surveyors flagging and mapped with Global Positioning System (GPS) equipment. Subject to weathering, the flagging will remain in the field for use during a USACE / WDNR site visit and for a guide during construction.

RESULTS

Table 1 is a list of the soils mapped in the *Soil Survey of Milwaukee and Waukesha Counties, Wisconsin*, for the Property (Figure 2). Soils listed as hydric within Waukesha County are shown in **bold** print.

Table 1. Soil Map Units Identified at the Property.

SYMBOL	SOIL MAP UNIT	CLASSIFICATION	DRAINAGE CLASS	HYDRIC PART
AsA	**Ashkum silty clay loam, 0-3% slopes**	**Typic Haplaquolls**	**poorly drained**	**whole soil unit**
EsA	**Elliott silt loam, 1-3% slopes**	**Aquic Argiudolls**	**somewhat poorly drained**	**inclusions for Ashkum soils**
FoB	Fox loam, 2-6% slopes	Typic Hapludalfs	well drained	none
HeB	Hebron loam, 2-6% slopes	Typic Hapludalfs	well drained	none
HeC2	Hebron loam, 6-12% slopes, eroded	Typic Hapludalfs	well drained	none
MeB	Markham silt loam, 2-6% slopes	Mollic Hapludalfs	well drained	none
MgA	**Martinton silt loam, 1-3% slopes**	**Aquic Argiudolls**	**somewhat poorly drained**	**inclusions for Montgomery soils**
Mzb	**Montgomery silty clay loam**	**Typic Haplaquolls**	**poorly drained**	**whole soil unit**
MzdB	Morley silt loam,2-6% slopes	Typic Hapludalfs	well drained	none
MzdB2	Morley silt loam,2-6% slopes, eroded	Typic Hapludalfs	well drained	none
MzdC2	Morley silt loam,6-12% slopes, eroded	Typic Hapludalfs	well drained	none
Mzg	**Muskego muck**	**Limnic Medisaprists**	**very poorly drained**	**whole soil unit**
Na	**Navan silt loam**	**Typic Argiaquolls**	**poorly drained**	**whole soil unit**
Oc	**Ogden muck**	**Terric Hapludalfs**	**poorly drained**	**whole soil unit**
ShB	Saylesville silt loam, 2-6% slopes	Typic Hapludalfs	well drained	none
ShB2	Saylesville silt loam, 2-6% slopes, eroded	Typic Hapludalfs	well drained	none
ShC2	Saylesville silt loam, 6-12% slopes, eroded	Typic Hapludalfs	well drained	none

The Wisconsin Wetland Inventory (WWI) shows wetlands south, southwest, and west of the active landfill (Figure 3). Three large areas are labeled as a mixed vegetation community of scrub-shrub/emergent wetland on wet soils (S3/E2K). An additional large area is marked as emergent wet meadow with either wet soil or standing water (E2H, E2K). Three smaller areas northwest and southwest of the active landfill are also marked as wet meadow (E2H, E2K, E2Kf).

The topography in the vicinity of the Property is generally flat, with natural topographic highs of greater than 800 feet above mean sea level (MSL) in the southeastern corner and the northeastern side of the Property. Surface water drainage is to the northwestern corner of the Property, and is accomplished by sheet flow and agricultural drainage ditches. Surface water leaving the Property is by an unnamed drainageway that discharges to Big Muskego Lake approximately 1.5 miles downstream of the Property. Big Muskego Lake is part of the Illinois-Fox drainage basin, which drains to the Mississippi River by way of the Illinois River.

An onsite wetland determination and delineation was completed on October 25-27, 2005 by Jerry Kelly and Rachel Veltman of NRC, on October 28, 2005 by Jerry Kelly and Allison Oberc of NRC, and Jerry Kelly on November 29, 2005. USACE data sheets were completed for sample points along transects through the wetland boundary plant communities, and are included in Appendix A. The transect and sample point locations were chosen within representative plant communities and at various landscape positions.

NRC determined boundaries for eight jurisdictional wetlands on the Property (Figure 4). Numbering of wetlands was kept consistent with that of a previous wetland delineation performed at the Property (JJR, Inc., 1996). Wetlands 1 and 2 described in that report have since been enhanced as entrance ponds to the Veolia ES Emerald Park Landfill and are not classified as jurisdictional wetlands. The area of Wetland 5 was investigated as part of the current project, but evidence of a wetland was not observed (data form for W5-P1 in Appendix A). Wetland 8, formerly separated from Wetland 9 by property belonging to others, is included as part of Wetland 9 because the client now possesses additional lands.

Wetlands additional to those described in the 1996 report are included in this report. Wetland 6A, west of Wetland 6, appears to have resulted from a change in land use activities. Wetlands 10 and 11 are on lands not owned by Veolia ES Emerald Park Landfill at the time of the earlier investigation.

Wetland 3

Wetland 3 is a large wet meadow and scrub-shrub complex in the southeastern part of the Property. A reed canary grass (*Phalaris arundinacea*) monoculture dominates most of the wet meadow parts of this wetland. Other wet meadow areas support prairie cordgrass (*Spartina pectinata*) and forbs, such as giant goldenrod (*Solidago gigantea*) and grassleaf goldenrod (*Euthamia graminifolia*). A pond in the northeastern part of Wetland 3 is surrounded by mature hardwood trees, especially silver maple (*Acer saccharinum*). Scrub-shrub areas are dominated by sandbar willow (*Salix exigua*) and gray and red osier dogwoods (*Cornus racemosa, C. stolonifera*). Indicators of hydric soils include a thick dark surface layer (Indicator A12 in National Technical Committee for Hydric Soils, *Field Indicators of Hydric Soils in the United States*, Version 5.9, 2003) and a loamy gleyed matrix (Indicator F2). Indicators of wetland hydrology are limited to secondary indicators, including the FAC-neutral test and local soil survey data.

Uplands adjacent to Wetland 3 are generally on noticeably higher ground, including landfill areas, U.S. Highway 45, and active and fallow fields. Active fields are currently (October 2005) planted in winter wheat (*Triticum aestivum*). Plant communities of fallow fields and landfill slopes are dominated by Kentucky bluegrass (*Poa pratensis*) and forbs such as Canada goldenrod (*Solidago canadensis*) and dandelion (*Taraxacum officinale*). Generally, soils at upland sampling locations did not exhibit indicators of hydric soils. Wetland hydrology indicators were not observed at upland sampling locations.

Wetland 4

Wetland 4 is a large wet meadow and scrub-shrub complex in the south-central part of the Property. Reed canary grass dominates the plant community in much of the wet meadow parts of Wetland 4. Prairie cordgrass and prairie forbs, including grassleaf goldenrod and sawtooth sunflower (*Helianthus grosseserratus*) dominate a wet meadow on the northern part of Wetland 4. The scrub-shrub plant community includes sandbar willow, dogwoods, and cockspur hawthorn (*Crataegus crus-galli*). Indicators of hydric soils include a depleted matrix and thick dark surface layer (Indicators A12 and F3) and the presence of muck soils (Indicator A1). Indicators of wetland hydrology are limited to secondary indicators, including the FAC-neutral test and local soil survey data.

Uplands adjacent to Wetland 4 generally grade downward to the wetland boundaries. Lands adjacent to Wetland 4 include agricultural fields planted in winter wheat and soybeans (*Glycine max*), landfill slopes, and fallow fields dominated by oldfield vegetation, including Canada and giant goldenrod, Kentucky bluegrass, tall fescue (*Festuca arudinacea*), reed canary grass, and dandelion. Generally, soils at upland sampling locations did not exhibit indicators of hydric soils. Wetland hydrology indicators were not observed at upland sampling locations.

Wetland 6

Wetland 6 is a small, isolated depression in an agricultural field. The plant community is a wet meadow dominated by reed canary grass and saplings of sandbar willow. Indicators of hydric soils include a loamy gleyed matrix (Indicator F2). Indicators of wetland hydrology are limited to secondary indicators, including the FAC-neutral test and local soil survey data.

Wetland 6 is surrounded by an agricultural field most recently planted in soybeans. Weeds in the field are indicative of upland conditions, and include dandelions and Queen Anne's lace (*Daucus carota*). Soils at upland sampling locations did not exhibit indicators of hydric soils, nor were wetland hydrology indicators observed.

Wetland 6A

Wetland 6A is a small depression at the edge of an agricultural field. The plant community is a wet meadow dominated by hybrid cattail (*Typha* x *glauca*) and barnyard grass (*Echinochloa crusgalli*). Forbs in Wetland 6A are also indicative of wetland conditions, and include swamp tickseed (*Bidens comosus*) and water plantain (*Alisma subcordatum*). Indicators of hydric soils include a depleted layer below a dark surface soil layer (Indicator A11). Indicators of wetland hydrology are limited to secondary indicators, including the FAC-neutral test and local soil survey data.

Wetland 6A is bordered on the west, south, and east by agricultural fields formerly planted in soybeans and alfalfa (*Medicago sativa*). Weeds in the field are indicative of upland conditions, and include dandelions and Queen Anne's lace. Soils at upland sampling locations did not exhibit indicators of hydric soils, nor were wetland hydrology indicators observed.

Wetland 7

Wetland 7 is a small, isolated depression at the edge of an agricultural field. The plant community is a wet meadow dominated by river bulrush (*Scirpus fluviatilis*) and field nutsedge (*Cyperus esculentus*), although remnants of soybean plants are present to indicate that most of this wetland was farmed in 2005. Indicators of hydric soils include a depleted layer below a dark surface soil layer (Indicator A11). Indicators of

wetland hydrology are limited to secondary indicators, including the presence of water-stained leaves, the FAC-neutral test and local soil survey data.

Wetland 6 is bordered by an agricultural field most recently planted in soybeans on the west and south. Weeds in the field are indicative of upland conditions, and include dandelions and Queen Anne's lace. The northern and eastern sides of Wetland 7 support oldfield vegetation, including squirreltail grass (*Hordeum jubatum*), heath aster (*Aster ericoides*), and dandelions. Soils at upland sampling locations did not exhibit indicators of hydric soils, nor were wetland hydrology indicators observed.

Wetland 9

Wetland 9 covers much of the northwestern part of the Property. This wetland supports an extensive wet meadow plant community, much of which is a reed canary grass monoculture. In places, sedge species (*Carex stricta, C. lacustris*) and sawtooth sunflower are supported with the reed canary grass. A large wooded hill forms an upland island in the center of Wetland 9. The hill is topographically distinct from the surrounding wetland and supports northern pin and bur oaks (*Quercus ellipsoidalis, Q. macrocarpa*), with a perimeter band of shrubs that includes cockspur hawthorn and prickly ask (*Xanthoxylum americanum*). Indicators of hydric soils in the wetland include a depleted layer below a dark surface soil layer or a thick dark surface layer (Indicators A11, A12). Indicators of wetland hydrology are limited to secondary indicators, including the presence of water-stained leaves, the FAC-neutral test and local soil survey data.

The southern part of Wetland 9 has been farmed for soybeans in 2005. Weeds growing among the soybean plants are reed canary grass. This part of Wetland 9 has a muck soil (Indicator A1, Histosol). Indicators of wetland hydrology are limited to secondary indicators, including the FAC-neutral test and local soil survey data.

Wetland 9 is bordered by agricultural fields and lawn areas. The agricultural fields are planted in soybeans, and the lawns in Kentucky bluegrass. Weeds in the fields and lawns are indicative of upland conditions, and include Canada goldenrod, dandelions, and Queen Anne's lace. Soils at upland sampling locations did not exhibit indicators of hydric soils, nor were wetland hydrology indicators observed.

Wetland 10

Wetland 10 is a large wet meadow and scrub-shrub area in the southwestern part of the Property. The wet meadow plant communities, which comprise most of the wetland, are dominated by reed canary grass, with few other plant species present. A scrub-shrub plant community, centered along a drainageway that extends through a part of the wetland, is dominated by red osier and gray dogwoods and sandbar willows. The wetland soils are characterized by a thick dark surface layer (Indicator A12). Indicators of wetland hydrology are limited to secondary indicators, including the FAC-neutral test and local soil survey data.

Uplands adjacent to Wetland 10 include agricultural and fallow fields. The agricultural fields are planted in winter wheat, although remnants of an earlier soybean crop remain. Fallow field areas are dominated by Kentucky bluegrass and Canada goldenrod. Soils at upland sampling locations did not exhibit indicators of hydric soils, nor were wetland hydrology indicators observed.

Wetland 11

Wetland 11 is a wet meadow on the western side of the Property surrounded by an agricultural field. The wet meadow plant community is dominated by prairie cordgrass, hummock sedge, and wetland forbs, such as giant and Riddell's goldenrods (*Solidago gigantean, S. riddellii*), sawtooth sunflower, and side-flowering

aster (*Aster lateriflorus*). Indicators of hydric soils in the wetland include a depleted layer below a dark surface soil layer (Indicator A11). Indicators of wetland hydrology are limited to secondary indicators, including the FAC-neutral test and local soil survey data.

The upland surrounding Wetland 11 is planted in winter wheat, although remnants of an earlier soybean crop remain. Soils at upland sampling locations did not exhibit indicators of hydric soils, nor were wetland hydrology indicators observed.

Wetland 12

Wetland 12 is a large wet meadow and shallow marsh area in the southwestern part of the Property. The wet meadow plant communities, which comprise most of the wetland, are dominated by reed canary grass, with few other plant species present. The wet meadow is a plant community dominated by hybrid cattail in a low area of the western part of the wetland. Small areas of scrub-shrub plant communities are scattered in the wetland, and are dominated by red osier and gray dogwoods and sandbar willows and young green ash trees (*Fraxinus pennsylvanica*). The wetland soils are characterized by a thick dark surface layer (Indicator A12). Indicators of wetland hydrology are limited to secondary indicators, including the FAC-neutral test and local soil survey data.

Uplands adjacent to Wetland 12 include agricultural fields and wooded mounds. The agricultural fields are planted in winter wheat and alfalfa, although remnants of an earlier soybean crop remain. The wooded topographically high areas contain plant communities dominated by oak trees, including black oak (*Quercus velutina*), northern pin oaks, and bur oaks. Soils at upland sampling locations did not exhibit indicators of hydric soils, nor were wetland hydrology indicators observed.

WDNR Field Meeting

Minutes from the meeting betweet Mr. Jay Warzinski and Mr. James Dunham; Veolia ES Emerald Park Landfill, LLC, Mr. Brian Karczewski, Natural Resources Consulting, Inc., Mr. Doug Genthe and Mr. Mark Torresani; RMT, Inc. and Ms. Pamela Schense of the Wisconsin Department of Natural Resources held on November 12, 2007 are included in Appendix B. The purpose of the meeting was to review

1) The wetland boundaries within and adjacent to the proposed expansion footprint; and
2) The farm ditches within and adjacent to the proposed expansion footprint.

General concurrence regarding the wetland boundaries was obtained. Small changes to the north side of wetland W-4 needed to be made. These changes are provided on Figure 4. Questions regarding a previously delineated area, wetland W-5, were addressed in the field. Ms. Schense agreed that there did not appear to be any indicators of wetland in the area. However, she requested that a farm service agency crop slide review be completed to show that the area was consistently farmed and that signatures were not present on a consistent basis. If so, she will consider the area upland.

Ms. Schense agreed with determinations presented in the field that Pond P-6 is not wetland. This area is now considered non-navigable and non-wetland and does not require further evaluation during the practical alternatives analysis process under NR 103.

Ms. Schense agreed to previously marked locations of navigability for ag-ditch D-4, and NRC's professional opinion of where navigability starts for D-2 (approximately 240 feet south of the 90 degree bend in D-2). These points of beginning of navigability are shown on figure 4.

FSA Aerial Review

At the request of Ms. Pamela Schense, an FSA slide review was completed for the site with particular attention placed on the area previously defined as wetland W-5. The results of this review are provided in Appendix C.

In summary, significant indicators of wetness signature were viewed on every aerial collected from 1990 through 2002. No signatures of wetness were observed in aerials taken after 2002. The construction of a compost facility to the west of wetland W-5 in 2000 (please refer to the 2000 aerial) caused a "new normal circumstance" in site drainage that caused the recent shift in wetness signatures observed on aerials taken from 2002 through 2006.

Other Environmental Considerations

This report is limited to the identification of state and/or federally regulated wetlands. In addition, there may be other regulated environmental features within the Property. These environmental features may include but are not limited to historical or archeological features, endangered or threatened species, designated environmental corridors, floodplains, and/or navigable waters.

Prior to beginning work at this site or disturbing or altering wetlands, waterways, or adjacent lands in any way, NRC strongly recommends that the owner obtain the necessary permits or other agency regulatory review and concurrence with regard to the proposed work in order to comply with applicable regulations. NRC would be happy to assist with any additional resources inventory or identification work at your request, to the extent that the work is within our range of expertise.

CONCLUSIONS

Natural Resources Consulting (NRC) conducted a wetland determination and delineation on the Veolia ES Emerald Park Landfill Property (the "Property") on October 25-28, 2005 and November 29, 2005. The Property includes approximately 395 acres in Section 36, Township 5 North, Range 20 East, Waukesha County, Wisconsin. The Property lies in the southeastern part of the City of Muskego, Wisconsin.

The objective of the wetland determination and delineation was to provide an estimate of the extent and spatial arrangement of wetlands within the Property.

NRC identified and surveyed by GPS nine wetlands on the Property. Wetlands 3, 4, 10, and 12 are large wet meadows, dominated by reed canary grass, with scrub-shrub areas. Wetland 9 is a large wet meadow dominated by a reed canary grass monoculture. Wetlands 6, 6A, and 7 are small (each less than ¼-acre) isolated depressions in an agricultural field. Wetland 11 is a wet meadow with a diverse plant community in an agricultural field.

This delineation identified the wetland boundary according to current federal and state guidelines. The city or county may restrict land use in close proximity to the wetlands through setbacks, zoning, buffers or environmental corridors.

The information provided regarding wetland boundaries is an estimate of the wetland boundary and the opinions presented are best estimates of the conditions at the time the wetlands were viewed. The ultimate decision on the boundaries defining regulatory jurisdiction over wetlands rests with the USACE and, in some cases, the WDNR, or a local unit of government. As a result, there may be adjustments to boundaries based upon review of a regulatory agency. An agency determination can vary from time to time depending on various factors including, but not limited to precipitation patterns and the season of the year. In addition, the physical characteristics of the site can change with time, depending on the weather, vegetation patterns, drainage, activities on adjacent parcels, or other events. Any of these factors can change the nature and extent of wetlands on the site. It is recommended the Client obtain an opinion and authority from regulating government agencies before proceeding with any development or utilization of the Property. If the Client proceeds to change, modify or utilize the Property in question without obtaining authorization from the regulating governmental agency, it will be done at the Client's own risk and Natural Resources Consulting, Inc. will not be responsible or liable for any resulting damages.

REFERENCES

DeLorme 3-D TopoQuads, 1999; United States Geological Survey, *Wisconsin 7.5 Minute Series (Topographic) Maps.*

Resource Management Group, *National List of Plant Species that Occur in Wetland Region 3, North Central,* 1995.

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United States Department of Agriculture (USDA), Soil Conservation Service, *Soil Survey of Milwaukee and Waukesha Counties, Wisconsin,* issued 1978.

USDA, Natural Resource Conservation Service (NRCS), *Hydric Soil List for Waukesha County, Wisconsin.*

Wisconsin Department of Natural Resources, *Wisconsin Wetlands Inventory, Waukesha County, Wisconsin*

REPORT FIGURES

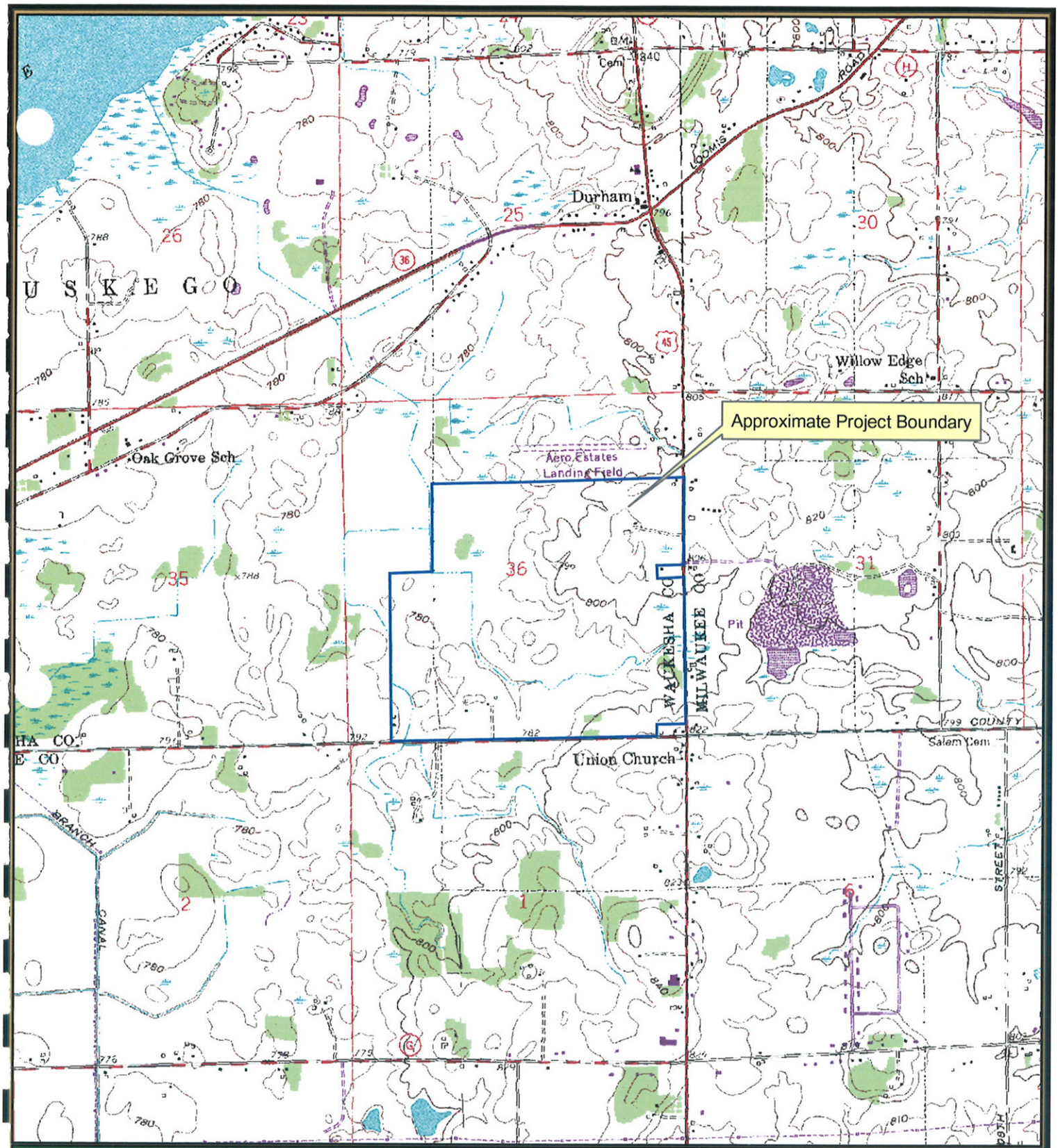

FIGURE 1. PROJECT LOCATION & TOPOGRAPHY
Emerald Park

Map Area Shown in Red

Location

Section 36, T5N, R20E
City of Muskego, Waukesha County, WI

Project Information

NRC Project Number #: 05-235
Modified November 4, 2005

0 1,000 2,000 Feet

Legend

Approximate Project Boundary

NRC Natural Resources Consulting, Inc.
119 South Main Street
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17

TOPO.mxd Map Created by S. Tervo

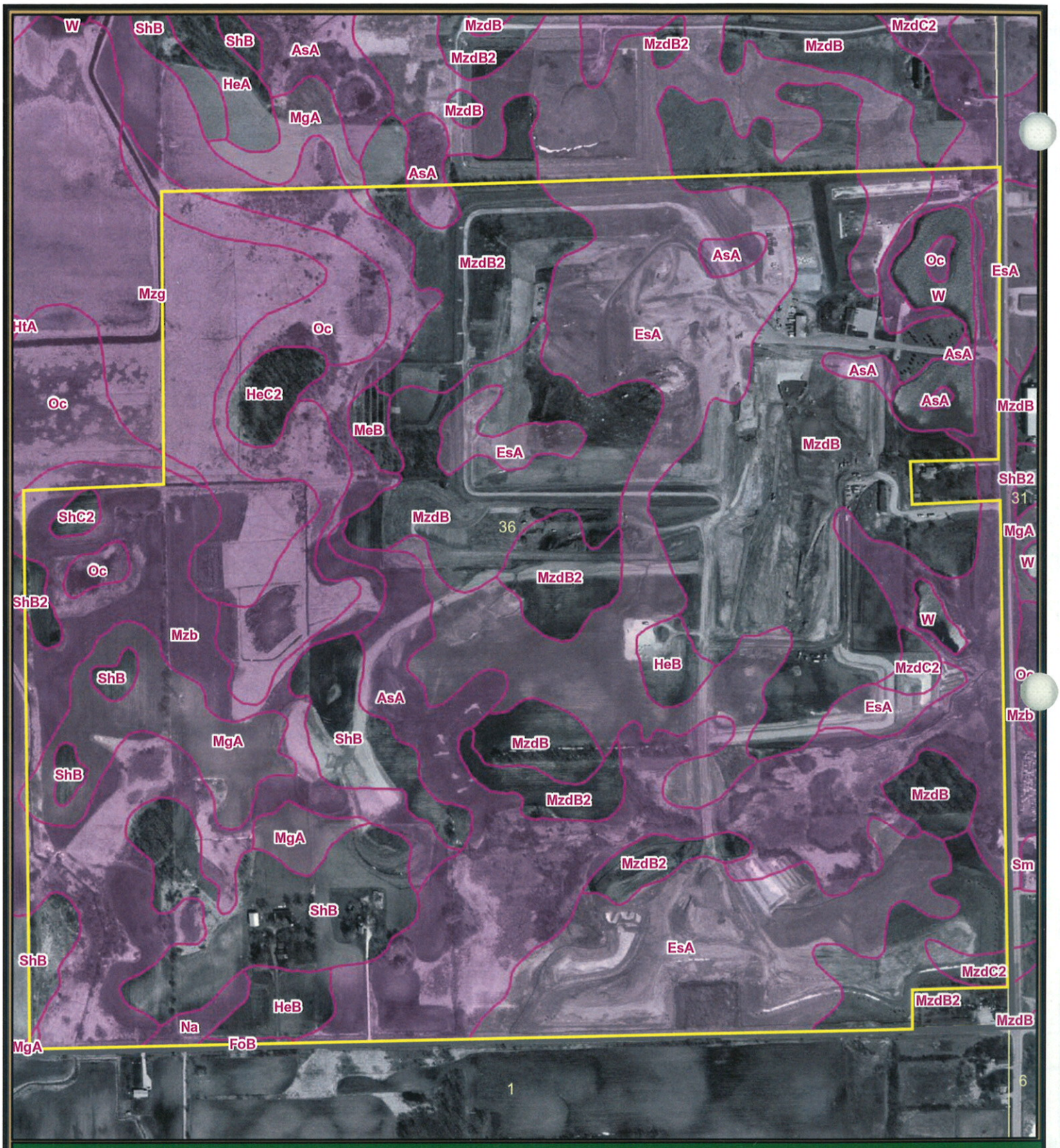

FIGURE 2. PROJECT LOCATION & NRCS SOIL SURVEY DATA
Emerald Park

Location

Section 36, T5N, R20E
City of Muskego, Waukesha County, WI

Project Information

NRC Project Number #: 05-235
Modified November 4, 2005

0 300 600 Feet

NRCS Soil Survey Data

- Hydric Soils
- Poss. Hydric INclusions
- Non-Hydric Soils
- Approximate Project Boundary
- Section Line

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18

Soils.mxd Map Created by S. Tervo

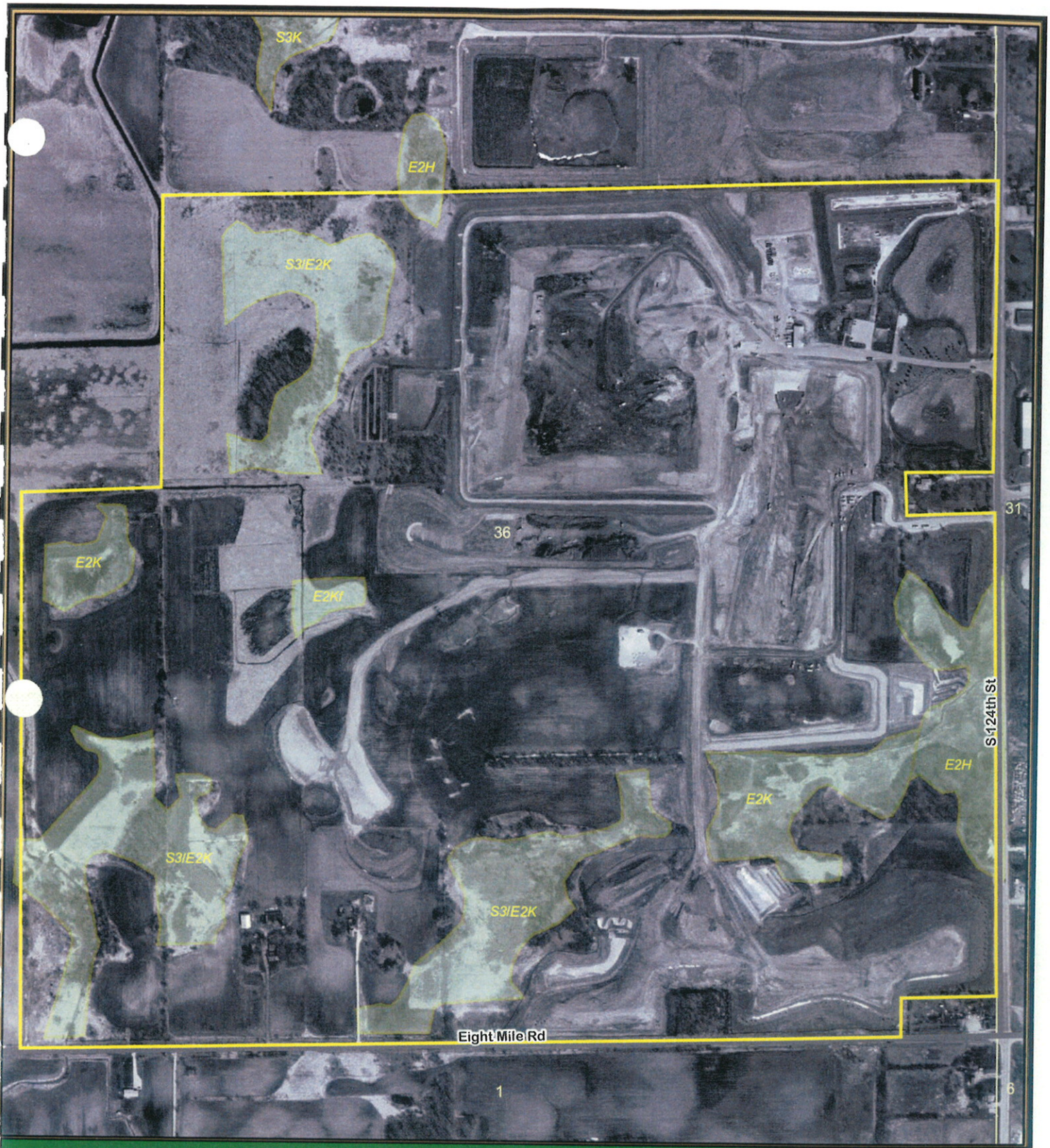

FIGURE 3. PROJECT LOCATION & WWI DATA
Emerald Park

N

Location

Section 36, T5N, R20E
Town of Muskego, Waukesha County, WI

Project Information

NRC Project Number #: 05-235
Modified October 31, 2005

0 300 600 Feet

Legend

- Approximate Project Boundary
- Waukesha WWI

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19

WWI.mxd Map Created by S. Tervo

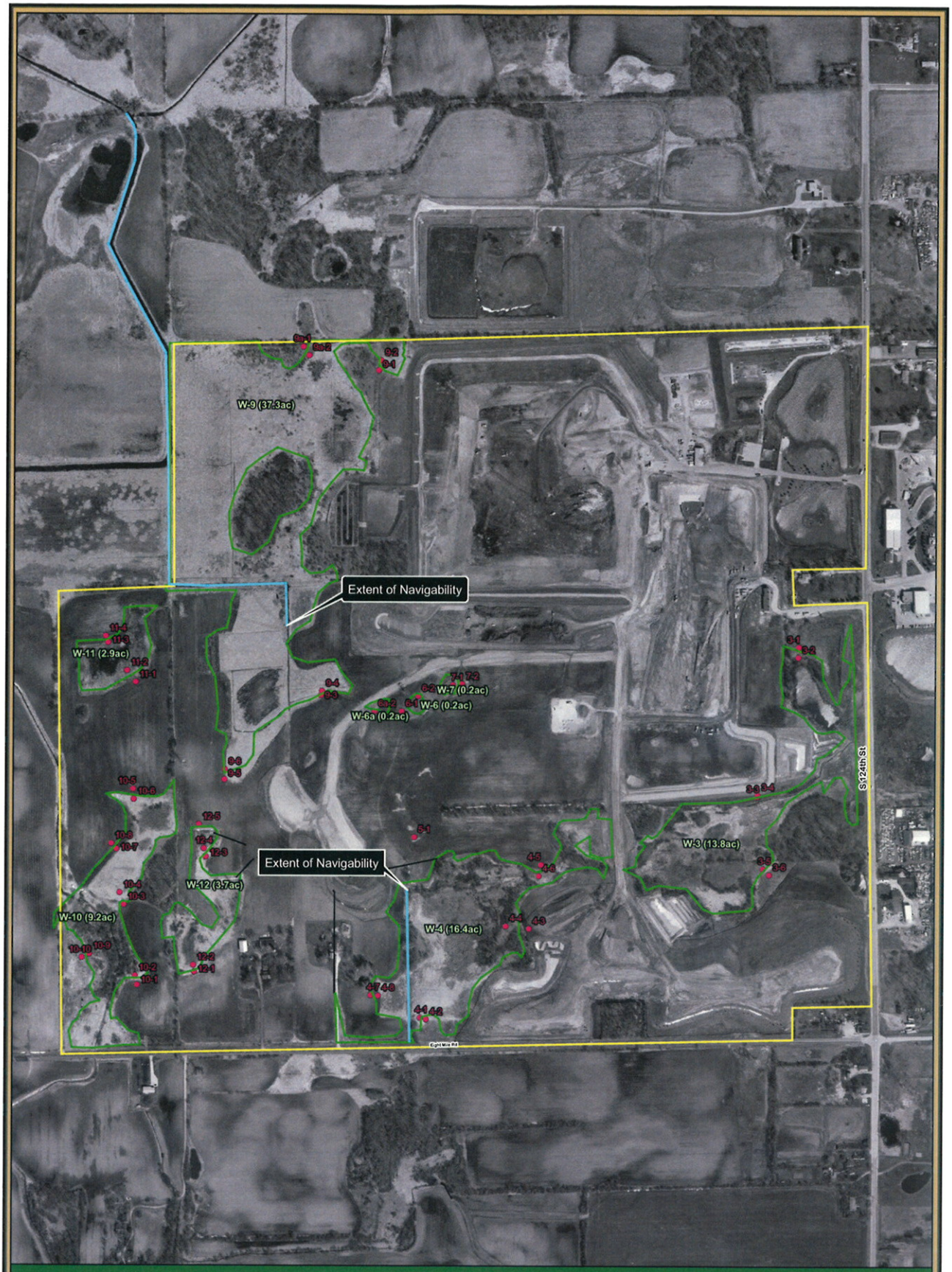


FIGURE 4. EMERALD PARK WETLANDS OVERVIEW
Veolia - Emerald Park

N

Location
Section 36, T5N, R20E
City of Muskego, Waukesha County, WI

Project Information
NRC Project Number : 007-0264-01
Modified December 16, 2008

0 250 500 Feet

Legend
- Approximate Project Boundary
- Field Delineated Wetland
- Sample Point
- Navigable Waterway

NRC
Natural Resources Consulting, Inc.
209 Commerce Parkway
P.O. Box 128
Cottage Grove, WI 53527-0128
phone: 608-839-1998
fax: 608-839-1995
www.nrcdifference.com

21

Updated Wetland Area Overview.mxd Map Created by D. Giblin

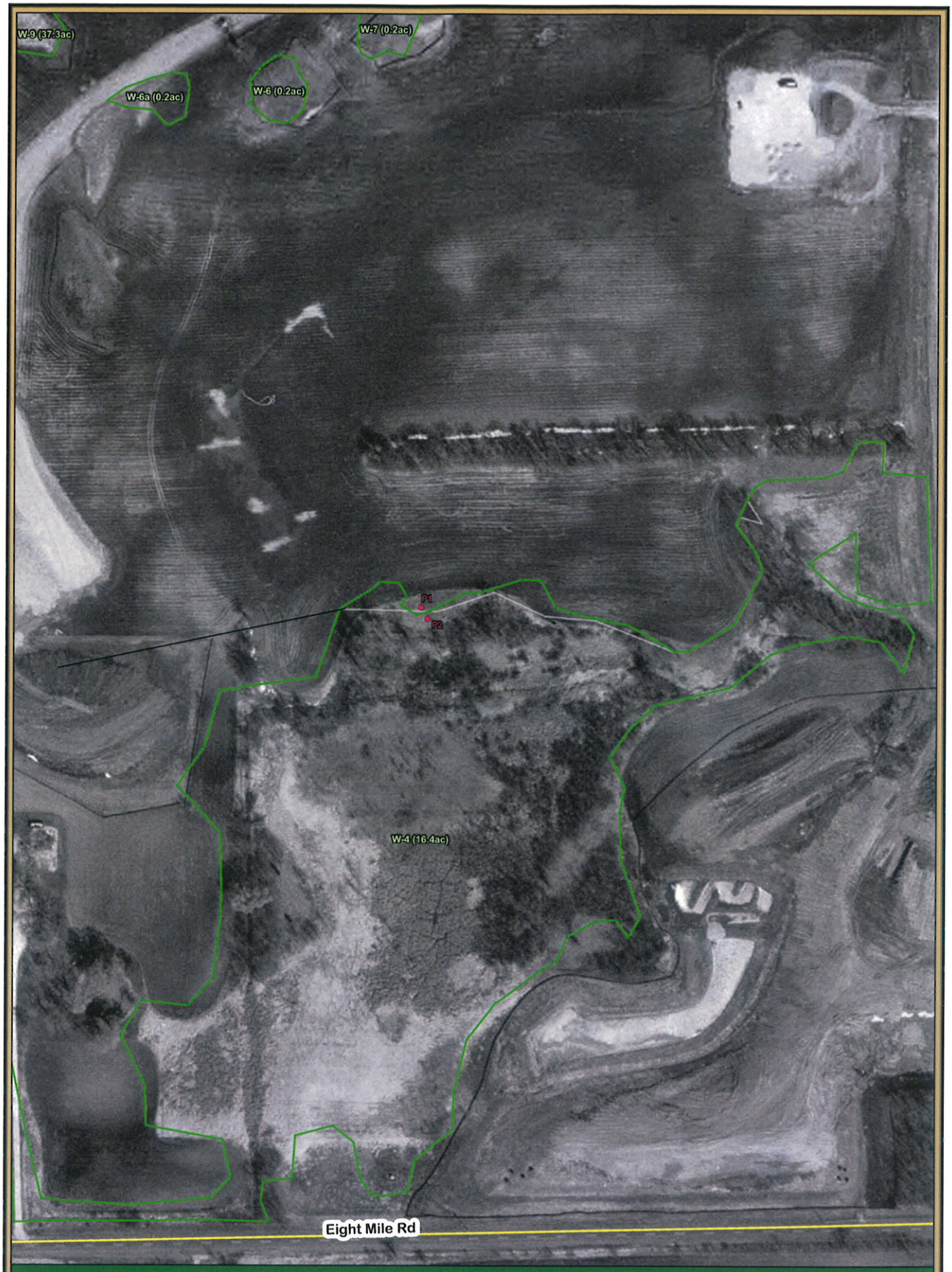


FIGURE 5. REVISED BOUNDARY WETLAND 4
Veolia - Emerald Park

N

Location
Section 36, T5N, R20E
City of Muskego, Waukesha County, WI

Project Information
NRC Project Number : 007-0264-01
Modified December 16, 2008

0 75 150 Feet

Legend
- Approximate Project Boundary
- Revised Field Delineated Wetland
- Previous Field Delineated Wetland Boundary
- Updated Sample Point

NRC
Natural Resources Consulting, Inc.
209 Commerce Parkway
P.O. Box 128
Cottage Grove, WI 53527-0128
phone: 608-839-1998
fax: 608-839-1995
www.nrcdifference.com

23

Updated Wetland Area.mxd Map Created by D. Giblin

APPENDIX A

U.S. ARMY CORPS OF ENGINEERS DATA SHEETS

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 26, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W3-P1

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Poa pratensis	H	80	FAC-	1. Geum macrophyllum	H	<5	FACW+
2. Solidago canadensis	H	20	FACU	2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0%

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
_____Local Soil Survey Data
_____FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MORLEY SILT LOAM, 2-6% SLOPES Drainage Class WD

Taxonomy (Subgroup) TYPIC HAPLUDALFS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-11		10YR3/2	-	-	SICL
11>18		10YR5/4	-	-	SICL

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
_____Sulfidic Odor
_____Aquic Moisture Regime
_____Reducing Conditions
_____Gleyed or Low-Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soil
_____Organic Streaking in Sandy Soils
_____Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other

Remarks:

WETLAND DETERMINATION

	(Circle)		
Hydrophytic Vegetation Present	Yes	(No)	
Wetland Hydrology Present	Yes	(No)	Is This Sampling Point in a Wetland (Circle) Yes (No)
Hydric Soils Present	Yes	(No)	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 26, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W3-P2

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	100	FACW+	1. Viburnum lentago	S	<5	FAC+
2. Acer saccharinum	T	50	FACW	2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:
Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
__X__ Local Soil Survey Data
__X__ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-18		10YR 3/1	—	—	SIL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	____ Other

Remarks: A12 THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)		
Hydrophytic Vegetation Present	(Yes)	No	
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland (Yes) No
Hydric Soils Present	(Yes)	No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 26, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W3-P3

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	95	FACW+	1. Typha x glauca	H	5	OBL
2.				2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators
_____ Stream, Lake, or Tide Gauge	Primary Indicators
X Aerial Photographs	_____ Inundated
_____ Other	_____ Saturated in Upper 12 inches
_____ No Recorded Data Available	_____ Water Marks
	_____ Drift Lines
Field Observations:	_____ Sediment Deposits
Depth of Surface Water: 0 (in)	_____ Drainage Patterns in Wetlands
Depth to Free Water in Pit: >18 (in)	Secondary Indicators (2 or more required)
Depth to Saturated Soil: >18 (in)	X Oxidized Root Channels
	_____ Water-Stained Leaves
	X Local Soil Survey Data
	X FAC-Neutral Test
	_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0>18		10YR 2/1	7.5YR 5/8	ROOT CHANNELS FEW/PROMINENT	SICL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: A12 THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)
Hydrophytic Vegetation Present	(Yes)	No		
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes) No
Hydric Soils Present	(Yes)	No		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 26, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? (Yes) No LANDFILL GRADING	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W3-P4

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	60	FACW+	1. Agrostis gigantea	H	10	FACW
2. Poa pratensis	H	20	FAC-	2. Taraxacum officinale	H	<5	FACU
3.				3. Daucus carota	H	<5	UPL
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 50%

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators
_____Stream, Lake, or Tide Gauge	Primary Indicators
X Aerial Photographs	_____Inundated
_____Other	_____Saturated in Upper 12 inches
_____No Recorded Data Available	_____Water Marks
	_____Drift Lines
Field Observations:	_____Sediment Deposits
Depth of Surface Water: 0 (in)	_____Drainage Patterns in Wetlands
Depth to Free Water in Pit: >18 (in)	Secondary Indicators (2 or more required)
Depth to Saturated Soil: >18 (in)	_____Oxidized Root Channels
	_____Water-Stained Leaves
	_____Local Soil Survey Data
	X FAC-Neutral Test
	_____Other (explain in remarks)

Remarks: SAMPLE POINT IS APPROX. 24 INCHES HIGHER THAN ADJACENT WETLAND.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ELLIOTT SILT LOAM Drainage Class SPD

Taxonomy (Subgroup) AQUIC ARGIUDOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10		10YR 3/1	—	—	SICL
10>18		2.5Y 5/3	—	—	SICL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	____ Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	____ Other

Remarks:

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present	(Yes)	No	
Wetland Hydrology Present	Yes	(No)	Is This Sampling Point in a Wetland Yes (No)
Hydric Soils Present	Yes	(No)	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 26, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W3-PS

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	40	FACW+	1.			
2. Eleocharis palustris	H	40	OBL	2.			
3. Euthamia graminifolia	H	20	FACW-	3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
__X__ Local Soil Survey Data
__X__ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		10YR 2/1	—	—	SICL
6>18		5Y 7/4	10YR 5/8	FEW/PROMINENT	C

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: F 2 LOAMY GLEYED MATRIX

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No			
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 26, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W3-P6

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Tritium aestivum	H	80	UPL	1. Sonchus arvensis	H	10	FAC-
2.				2. Glycine max	H	5	UPL
3.				3. Taraxacum officinale	H	5	FACU
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: > 18 (in)
Depth to Saturated Soil: > 18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0>18		10YR2/1	–	–	SICL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: A12 THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present	Yes (No)	Is This Sampling Point in a Wetland	Yes (No)
Wetland Hydrology Present	Yes (No)		
Hydric Soils Present	(Yes) No		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 25, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: WI-P1

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	80	FACW+	1. Euthamia graminifolia	H	<5	FACW-
2. Solidago canadensis	H	20	FACU	2. Sonchus arvensis	H	<5	FAC-
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 50%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
__X__ Local Soil Survey Data
__X__ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-14		10YR 2/1	—	—	SICL
14>18		10YR 2/1	5Y 5/3	COMMON/PROMINENT	SICL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	____ Listed on Local Hydric Soils List
____ Reducing Conditions	____ Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	____ Other

Remarks: F3 DEPLETED MATRIX

WETLAND DETERMINATION

	(Circle)		(Circle)	
Hydrophytic Vegetation Present	(Yes)	No		
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes) No
Hydric Soils Present	(Yes)	No		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 25, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W4-P2

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Solidago canadensis	H	20	FACU	1. Aster ericoides	H	<5	FACU-
2. Solidago gigantea	H	20	FACW	2. Melilotus alba	H	<5	FACU
3. Taraxacum officinale	H	20	FACU	3. Daucus carota	H	<5	UPL
4. Festuca arundinacea	H	20	FACU+	4. Geum laciniatum	H	<5	FACW
5. Phalaris arundinacea	H	20	FACW+	5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 40%

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
_____Local Soil Survey Data
_____FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12		10YR 2/1	—	—	SICL
12>24		5Y 3/2	—	—	CL

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
_____Sulfidic Odor
_____Aquic Moisture Regime
_____Reducing Conditions
_____Gleyed or Low-Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soil
_____Organic Streaking in Sandy Soils
__A__Listed on Local Hydric Soils List
__A__Listed on National Hydric Soils List
_____Other

Remarks: F 3 DEPLETED MATRIX

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present	Yes (No)		
Wetland Hydrology Present	Yes (No)	Is This Sampling Point in a Wetland	Yes (No)
Hydric Soils Present	(Yes) No		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 25, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No EARTHWORK	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? (Yes) No IN AREA, FILL	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W4-P3

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Festuca arundinacea	H	40	FACU+	1. Rumex crispus	H	10	FAC+
2. Solidago canadensis	H	20	FACU	2. Medicago sativa	H	10	UPL
3. Agrostis gigantea	H	20	FACW	3. Taraxacum officinale	H	<5	FACU
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 33%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:
Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ELLIOTT SILT LOAM

Drainage Class SPD

Taxonomy (Subgroup) AQUIC ARGIUDOLLS

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0>18		10YR 2/1	-	-	SIL, FILL AREA

Hydric Soil Indicators:

_____ Histosol	_____ Concretions
_____ Histic Epipedon	_____ High Organic Content in Surface Layer in Sandy Soil
_____ Sulfidic Odor	_____ Organic Streaking in Sandy Soils
_____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
_____ Reducing Conditions	_____ Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	_____ Other

Remarks: A12 THICK DARK SURFACE
SOIL APPEARS TO BE AN ASHRUM INCLUSION PROFILE.

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present	Yes (No)	Is This Sampling Point in a Wetland	Yes (No)
Wetland Hydrology Present	Yes (No)		
Hydric Soils Present	(Yes) No		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 25, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W4-P4

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Poa pratensis	H	40	FAC-	1. Agrostis gigantea	H	10	FACW
2. Helianthus grosseserratus	H	20	FACW-	2. Aster novae-angliae	H	<5	FACW
3. Euthamia graminifolia	H	20	FACW-	3. Aster pilosus	H	<5	FACU+
4.				4. Solidago riddellii	H	<5	OBL
5.				5. Scirpus pendulus	H	<5	OBL
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 67%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators
_____ Stream, Lake, or Tide Gauge	Primary Indicators
X Aerial Photographs	_____ Inundated
_____ Other	_____ Saturated in Upper 12 inches
_____ No Recorded Data Available	_____ Water Marks
	_____ Drift Lines
Field Observations:	_____ Sediment Deposits
Depth of Surface Water: 0 (in)	_____ Drainage Patterns in Wetlands
Depth to Free Water in Pit: >18 (in)	Secondary Indicators (2 or more required)
Depth to Saturated Soil: >18 (in)	_____ Oxidized Root Channels
	_____ Water-Stained Leaves
	X Local Soil Survey Data
	X FAC-Neutral Test
	_____ Other (explain in remarks)

Remarks: TOPOGRAPHIC LOW AREA

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-11		10YR 2/1	—	—	SICL
11+18		5Y 5/1	2.5Y 6/8	MANY/PROMINENT	C

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: A12 THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)		(Circle)	
Hydrophytic Vegetation Present	(Yes)	No		
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes) No
Hydric Soils Present	(Yes)	No		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 25, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W4-P5

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Glycine max	H	40	UPL	1. Taraxacum officinale	H	5	FACU
2. Medicago sativa	H	40	UPL	2. Daucus carota	H	5	UPL
3.				3. Solidago canadensis	H	<5	FACU
4.				4. Ambrosia artemisiifolia	H	<5	FACU
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10		10YR 3/2	—	—	SIL
10>18		10YR 5/8	—	—	SIL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	A Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	____ Other

Remarks:

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present	Yes (No)	Is This Sampling Point in a Wetland	Yes (No)
Wetland Hydrology Present	Yes (No)		
Hydric Soils Present	Yes (No)		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 25, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W4-P6

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Spartina pectinata	H	80	FACW+	1. Monarda fistulosa	H	5	FACU
2.				2. Silphium terebinthinaceum	H	5	FACU
3.				3. Aster firmus	H	<5	FACW+
4.				4. Helianthus grosseserratus	H	5	FACW-
5.				5. Euthamia graminifolia	H	<5	FACW-
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >12 (in)
Depth to Saturated Soil: >12 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
__X__ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
__X__ Local Soil Survey Data
__X__ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0>12		N2.5/0			MUCK

Hydric Soil Indicators:

X Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	X Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	____ Other

Remarks: A1 HISTOSOL

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No			
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 25, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W4-P7

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Triticum aestivum	H	80	UPL	1. Taraxacum officinale	H	10	FACU
2.				2. Glycine max	H	10	UPL
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: > 18 (in)
Depth to Saturated Soil: > 18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
_____Local Soil Survey Data
_____FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10		10YR 3/2	-	-	SICL
10>18		5Y 5/1	5Y 5/8	MANY/PROMINENT	CL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: ALL DEPLETED BELOW DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)
Hydrophytic Vegetation Present	Yes	(No)		
Wetland Hydrology Present	Yes	(No)	Is This Sampling Point in a Wetland	Yes (No)
Hydric Soils Present	(Yes)	No		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 25, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W4-P8

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	80	FACW+	1.			
2. Typha x glauca	H	20	OBL	2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:
Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >12 (in)
Depth to Saturated Soil: 3 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
__X__ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
__X__ Local Soil Survey Data
__X__ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0?12		N 2.5/0	–	–	MUCK

Hydric Soil Indicators:

X Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	X Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	____ Other

Remarks: A1 HISTOSOL

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No			
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 27, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? (Yes) No (FARMED WETLAND)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: WS-P1

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Glycine max	H	30	UPL	1. Pennesetum glaucum	H	10	FAC+
2. Thlaspi arvense	H	30	UPL	2. Daucus carota	H	5	UPL
3.				3. Fragaria virginiana	H	5	FAC-
4.				4. Poa pratensis	H	<5	FAC-
5.				5. Solidago canadensis	H	<5	FACU
6.				6. Sonchus arvensis	H	<5	FAC-
7.				7. Taraxacum officinale	H	<5	FACU
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks: TOPOGRAPHIC LOW AREA

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-14		10YR2/1	—	—	SICL
14>18		50% 10YR2/1	—	—	SICL
		50% 10YR3/3	—	—	SICL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	____ Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	____ Other

Remarks:

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present	Yes (No)	Is This Sampling Point in a Wetland	Yes (No)
Wetland Hydrology Present	Yes (No)		
Hydric Soils Present	Yes (No)		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 27, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? (Yes) No MAN-INDUCED DUE TO NEW DRAIN PATTERNS	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W6A-P1

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Typha x glauca	H	20	OBL	1. Bidens comosus	H	10	FACW
2. Echinochloa crusgalli	H	60	FACW	2. Setaria viridis	H	10	FAC-
3.				3. Aster lanceolatus	H	<5	FACW
4.				4. Polygonum hydropiper	H	<5	OBL
5.				5. Alisma subcordatum	H	<5	OBL
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators
_____ Stream, Lake, or Tide Gauge	Primary Indicators
X Aerial Photographs	_____ Inundated
_____ Other	_____ Saturated in Upper 12 inches
_____ No Recorded Data Available	_____ Water Marks
	_____ Drift Lines
Field Observations:	_____ Sediment Deposits
Depth of Surface Water: 0 (in)	_____ Drainage Patterns in Wetlands
Depth to Free Water in Pit: >18 (in)	Secondary Indicators (2 or more required)
Depth to Saturated Soil: >18 (in)	_____ Oxidized Root Channels
	_____ Water-Stained Leaves
	~~X~~ Local Soil Survey Data
	X FAC-Neutral Test
	_____ Other (explain in remarks)

Remarks: TOPOGRAPIC LOW AREA

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12		10YR 2/1	–	–	SICL
12		5GY 7/1	10YR 6/8	MANY/PROMINENT	C (~1/4 IN. THICK)
12+18		10YR 2/1	–	–	C

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: A11 DEPLETED BELOW DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No			
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 27, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W6A-P2

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Daucus carota	H	40	UPL	1. Aster lanceolatus	H	10	FACW
2. Medicago sativa	H	20	UPL	2. Aster pilosus	H	10	FACU+
3. Taraxacum officinale	H	20	FACU	3. Trifolium hybridum	H	<5	FAC-
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4		10YR 3/1	—	—	SICL
4>18		10YR 4/3	—	—	SIL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	X Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	____ Other

Remarks:

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present	Yes (No)	Is This Sampling Point in a Wetland	Yes (No)
Wetland Hydrology Present	Yes (No)		
Hydric Soils Present	Yes (No)		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 27, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W6-P1 ; W6A-P3

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Glycine max	H	40	UPL	1.			
2. Plantago major	H	20	FAC+	2.			
3. Taraxacum officinale	H	20	FACU	3.			
4. Daucus carota	H	20	UPL	4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 25%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ELLIOTT SILT LOAM Drainage Class SPD

Taxonomy (Subgroup) AQUIC ARGIUDOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		10YR 3/1	—	—	SICL
6>18		10YR 3/3	—	—	SIL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	____ Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	____ Other

Remarks:

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present	Yes (No)	Is This Sampling Point in a Wetland	Yes (No)
Wetland Hydrology Present	Yes (No)		
Hydric Soils Present	Yes (No)		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 27, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: WG-PZ

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	90	FACW+	1. Scirpus fluviatilis	H	<5	OBL
2. Salix exigua	S	50	OBL	2. Aster lanceolatus	H	5	FACW
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
__X__ Local Soil Survey Data
__X__ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks: TOPOGRAPHIC DEPRESSION

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ELLIOTT SILT LOAM Drainage Class SPD

Taxonomy (Subgroup) AQUIC ARGIUDOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3		10YR 2/1	–	–	SICL
3>18		5Y 6/3	10YR 6/8	MANY/PROMINENT	CL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	____ Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	____ Other

Remarks: F2 LOAMY GLEYED MATRIX

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No			
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 27, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W6-P3; W7-P3

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Glycine max	H	50	UPL	1. Pennesetum glaucum	H	< 5	FACU
2. Taraxacum officinale	H	20	FACU	2. Poa pratensis	H	< 5	FAC-
3. Daucus carota	H	20	UPL	3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ELLIOTT SILT LOAM Drainage Class SPD

Taxonomy (Subgroup) AQUIC ARGIUDOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3		10YR 4/3	—	—	SIL
3>18		10YR 3/3	—	—	SIL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	____ Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	____ Other

Remarks:

WETLAND DETERMINATION

	(Circle)		
Hydrophytic Vegetation Present	Yes	(No)	
Wetland Hydrology Present	Yes	(No)	Is This Sampling Point in a Wetland (Circle) Yes (No)
Hydric Soils Present	Yes	(No)	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 27, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? (Yes) No (FARMED WETLAND)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W7-P1

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Glycine max	H	40	UPL	1. Phalaris arundinacea	H	10	FACW+
2. Scirpus fluviatilis	H	20	OBL	2. Rumex crispus	H	<5	FAC+
3. Cyperus esculentus	H	20	FACW	3. Taraxacum officinale	H	<5	FACU
4.				4. Ambrosia trifida	H	<5	FAC+
5.				5. Daucus carota	H	<5	UPL
6.				6. Pennesetum glaucum	H	<5	FAC+
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 60%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators
_____ Stream, Lake, or Tide Gauge	Primary Indicators
X Aerial Photographs	_____ Inundated
_____ Other	_____ Saturated in Upper 12 inches
_____ No Recorded Data Available	_____ Water Marks
	_____ Drift Lines
Field Observations:	_____ Sediment Deposits
Depth of Surface Water: 0 (in)	_____ Drainage Patterns in Wetlands
Depth to Free Water in Pit: >18 (in)	Secondary Indicators (2 or more required)
Depth to Saturated Soil: >18 (in)	_____ Oxidized Root Channels
	X Water-Stained Leaves
	X Local Soil Survey Data
	X FAC-Neutral Test
	_____ Other (explain in remarks)

Remarks: TOPOGRAPHIC DEPRESSION

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ELLIOTT SILT LOAM Drainage Class SPD

Taxonomy (Subgroup) AQUIC ARGIUDOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		2.5Y 5/2	–	–	SICL
8>18		10YR 2/1	–	–	SICL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	___ Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: A11 DEPLETED BELOW DARK SURFACE
PROFILE FITS ASHKUM SILTY CLAY INCLUSIONS.

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Wetland Hydrology Present	(Yes)	No			
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 27, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W7-P2

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Aster ericoides	H	30	FACU-	1. Phalaris arundinacea	H	10	FACW+
2. Hordeum jubatum	H	20	FAC+	2.			
3. Taraxacum officinale	H	20	FACU	3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 33%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MORLEY SILT LOAM Drainage Class WD

Taxonomy (Subgroup) TYPIC HAPLUDALFS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 3/1	—	—	SIL
8>18		2.5Y 6/3	10YR 6/8	COMMON/PROMINENT	SL

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
_____Sulfidic Odor
_____Aquic Moisture Regime
_____Reducing Conditions
_____Gleyed or Low-Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soil
_____Organic Streaking in Sandy Soils
_____Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other

Remarks:

WETLAND DETERMINATION

	(Circle)			(Circle)
Hydrophytic Vegetation Present	Yes	(No)		
Wetland Hydrology Present	Yes	(No)	Is This Sampling Point in a Wetland	Yes (No)
Hydric Soils Present	Yes	(No)		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 26, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W9-P1

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Poa pratensis	H	90	FAC-	1. Solidago canadensis	H	5	FACU
2.				2. Helianthus grosseserratus	H	5	FACW-
3.				3. Geum macrophyllum	H	<5	FACW+
4.				4. Solidago gigantea	H	<5	FACW
5.				5. Achillea millifolium	H	<5	FACU
6.				6. Fragaria virginiana	H	<5	FAC-
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:
Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MORLEY SILT LOAM, ERODED Drainage Class: WD

Taxonomy (Subgroup): TYPIC HAPLUDALFS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 3/1	—	—	SICL
8>20		2.5Y 5/4	—	—	CL

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
_____Sulfidic Odor
_____Aquic Moisture Regime
_____Reducing Conditions
_____Gleyed or Low-Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soil
_____Organic Streaking in Sandy Soils
_____Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other

Remarks:

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present	Yes (No)	Is This Sampling Point in a Wetland	Yes (No)
Wetland Hydrology Present	Yes (No)		
Hydric Soils Present	Yes (No)		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 26, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W9-PZ

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	90	FACW+	1. Carex lacustris	H	10	OBL
2.				2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
__X__ Local Soil Survey Data
__X__ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): ASHKUM SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 2/1	—	—	SICL
8>18		10YR 2/1	5GY 5/1 DEPLETIONS MANY/PROMINENT 10YR 5/8 REDOX FEW/PROMINENT		CL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	____ Other

Remarks: A11 DEPLETED BELOW DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No			
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 26, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W9A-P1

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Poa pratensis	H	90	FAC-	1. Daucus carota	H	5	UPL
2.				2. Aster pilosus	H	5	FACU+
3.				3. Spartina pectinata	H	<5	FACW+
4.				4. Euthamia graminifolia	H	<5	FACW-
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0%

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
_____Local Soil Survey Data
_____FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class SPD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		10YR2/1	—	—	SIL
6>18		5Y5/1	—	—	SICL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: ALL DEPLETED BELOW DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)
Hydrophytic Vegetation Present	Yes	(No)		
Wetland Hydrology Present	Yes	(No)	Is This Sampling Point in a Wetland	Yes (No)
Hydric Soils Present	(Yes)	No		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 26, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W9A-P2

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	100	FACW+	1. Carex stricta	H	<5	OBL
2.				2. Solidago gigantea	H	<5	FACW
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
__X__Local Soil Survey Data
__X__FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM

Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0>18		10YR 2/1	-	-	SICL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: A 12 THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Wetland Hydrology Present	(Yes)	No			
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 27, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W9-P3

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Solidago canadensis	H	30	FACU	1. Daucus carota	H	<5	UPL
2. Melilotus alba	H	30	FACU	2. Euthamia graminifolia	H	<5	FACW-
3. Ambrosia trifida	H	20	FAC+	3.			
4. Cirsium arvense	H	20	FACU	4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 25%

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
_____Local Soil Survey Data
_____FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 2/1	-	-	SIL
8>18		2.5Y 5/3	-	-	SIL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	X Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	____ Other

Remarks:

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present	Yes (No)	Is This Sampling Point in a Wetland	Yes (No)
Wetland Hydrology Present	Yes (No)		
Hydric Soils Present	Yes (No)		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 27, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W9-P4

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	80	FACW+	1.			
2. Helianthus grosseserratus	H	20	FACW-	2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
__X__Local Soil Survey Data
__X__FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4		10YR 2/1	—	—	SICL
4>18		5GY 6/1	10YR 6/8	COMMON/PROMINENT	SICL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: F 2 LOAMY GLEYED MATRIX

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No			
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 27, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W9-PS

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Glycine max	H	100	UPL	1. Taraxacum officinale	H	<5	FACU
2.				2. Daucus carota	H	<5	UPL
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
_____Local Soil Survey Data
_____FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-14		10YR 3/1	—	—	SIL
14>18		2.5Y 6/2	—	—	SICL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: A 12 THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present	Yes (No)	Is This Sampling Point in a Wetland	Yes (No)
Wetland Hydrology Present	Yes (No)		
Hydric Soils Present	(Yes) No		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 27, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W9 - P6

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Glycine max	H	100	UPL	1. Phalaris arundinacea	H	<5	FACW+
2.				2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0%*

Remarks: FARMED WETLAND; *WEEDS ARE WETLAND SPECIES

HYDROLOGY

Recorded Data (Describe in Remarks)
___ Stream, Lake, or Tide Gauge
X Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observations:
Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >12 (in)
Depth to Saturated Soil: >12 (in)

Wetland Hydrology Indicators
Primary Indicators
___ Inundated
___ Saturated in Upper 12 inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
___ Oxidized Root Channels
___ Water-Stained Leaves
X Local Soil Survey Data
X FAC-Neutral Test
___ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MUSKEGO MUCK Drainage Class VPD

Taxonomy (Subgroup) Limnic Medisaprists Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0>12		N 2.5/0	-	-	MUCK

Hydric Soil Indicators:

- X Histosol
- ____ Histic Epipedon
- ____ Sulfidic Odor
- ____ Aquic Moisture Regime
- ____ Reducing Conditions
- ____ Gleyed or Low-Chroma Colors
- ____ Concretions
- ____ High Organic Content in Surface Layer in Sandy Soil
- ____ Organic Streaking in Sandy Soils
- X Listed on Local Hydric Soils List
- X Listed on National Hydric Soils List
- ____ Other

Remarks: A 1 HISTOSOL

WETLAND DETERMINATION

	(Circle)	
Hydrophytic Vegetation Present	(Yes)	No
Wetland Hydrology Present	(Yes)	No
Hydric Soils Present	(Yes)	No

Is This Sampling Point in a Wetland (Circle) (Yes) No

Remarks: ACTIVELY FARMED WETLAND

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 25, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W10-P1

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Triticum aestivum	H	90	UPL	1. Glycine max	H	5	UPL
2.				2. Taraxacum officinale	H	5	FACU
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0%

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
_____Local Soil Survey Data
_____FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0>18		10YR 2/1	—	—	SIL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: A12 THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	Yes	(No)	Is This Sampling Point in a Wetland	Yes	(No)
Wetland Hydrology Present	Yes	(No)			
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 25, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Rachel Veltman	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W10-P2

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	100	FACW+	1.			
2.				2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
__X__Local Soil Survey Data
__X__FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-16		10YR 2/1	—	—	SICL
16>18		N 4/0	—	—	CL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	____ Other

Remarks: A12 — THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No			
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 28, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Allison Oberc	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W10-P3

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Triticum aestivum	H	95	UPL	1. Glycine max	H	5	UPL
2.				2. Plantago major	H	<5	FAC+
3.				3. Taraxacum officinale	H	<5	FACU
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR3/1	—	—	SICL
8>18		5Y 5/2	10YR 6/8	COMMON/PROMINENT	SICL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: ALL DEPLETED BELOW DARK SURFACE

WETLAND DETERMINATION

	(Circle)		
Hydrophytic Vegetation Present	Yes	(No)	
Wetland Hydrology Present	Yes	(No)	Is This Sampling Point in a Wetland (Circle) Yes (No)
Hydric Soils Present	(Yes)	No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 28, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Allison Oberc	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W10-P4

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	100	FACW+	1. Helianthus grosseserratus	H	<5	FACW-
2.				2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
__X__Local Soil Survey Data
__X__FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0>18		10YR 2/1	---	--	SICL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	____ Other

Remarks: A12 THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No			
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 28, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Allison Oberc	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W10-PS

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Triticum aestivum	H	95	UPL	1. Glycine max	H	5	UPL
2.				2. Sonchus arvensis	H	<5	FAC-
3.				3. Taraxacum officinale	H	<5	FACU
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MARTINTON SILT LOAM Drainage Class SPD

Taxonomy (Subgroup) AQUIC ARGIUDOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5		10YR 2/1	—	—	SIL
5>18		10YR 3/2	—	—	SIL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
____ Reducing Conditions	____ Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	____ Other

Remarks:

WETLAND DETERMINATION

	(Circle)		
Hydrophytic Vegetation Present	Yes	(No)	
Wetland Hydrology Present	Yes	(No)	Is This Sampling Point in a Wetland (Circle) Yes (No)
Hydric Soils Present	Yes	(No)	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 28, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Allison Oberc	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W10 - P6

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	100	FACW+	1.			
2.				2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100 %

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
__X__ Local Soil Survey Data
__X__ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0>18		10YR 2/1	–	–	SICL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: A12 - THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No			
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 28, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Allison Oberc	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W10-P7

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	100	FACW+	1.			
2.				2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
__X__Local Soil Survey Data
__X__FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0>18		10YR 2/1	—	—	SICL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: A12 - THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)		
Hydrophytic Vegetation Present	(Yes)	No	
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland (Yes) No
Hydric Soils Present	(Yes)	No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 28, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Allison Oberc	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: WIO-P8

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Triticum aestivum	H	100	UPL	1. Glycine max	H	<5	UPL
2.				2. Taraxacum officinale	H	<5	FACU
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0%

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
_____Local Soil Survey Data
_____FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

100

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MATINTON SILT LOAM Drainage Class SPD

Taxonomy (Subgroup) AQUIC ARGIUDOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		10YR3/1	—	—	SIL
6>18		10YR3/3	—	—	SIL

Hydric Soil Indicators:

_____ Histosol	_____ Concretions
_____ Histic Epipedon	_____ High Organic Content in Surface Layer in Sandy Soil
_____ Sulfidic Odor	_____ Organic Streaking in Sandy Soils
_____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
_____ Reducing Conditions	_____ Listed on National Hydric Soils List
_____ Gleyed or Low-Chroma Colors	_____ Other

Remarks:

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present	Yes (No)	Is This Sampling Point in a Wetland	Yes (No)
Wetland Hydrology Present	Yes (No)		
Hydric Soils Present	Yes (No)		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 28, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Allison Oberc	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W10-P9

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Salix exigua	S	20	OBL	1. Solidago canadensis	H	10	FACU
2. Cornus racemosa	S	20	FACW-	2.			
3. Cornus stolonifera	S	20	FACW	3.			
4. Poa pratensis	H	40	FAC-	4.			
5. Phalaris arundinacea	H	20	FACW+	5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 80%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
__X__ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
__X__ Local Soil Survey Data
__X__ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0>18		10YR 2/1	—	—	SICL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
A Gleyed or Low-Chroma Colors	___ Other

Remarks: A 12 THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)		
Hydrophytic Vegetation Present	(Yes)	No	
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland (Yes) No
Hydric Soils Present	(Yes)	No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 28, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Allison Oberc	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W10-P10

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Poa pratensis	H	80	FAC-	1. Fragaria virginiana	H	<5	FAC-
2. Solidago canadensis	H	20	FACU	2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): SAYLESVILLE SILT LOAM Drainage Class WD

Taxonomy (Subgroup) TYPIC HAPLUDALFS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0>18		10YR 2/1	—	—	SICL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	___ Listed on Local Hydric Soils List
___ Reducing Conditions	___ Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: A 12 THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	Yes	(No)			
Wetland Hydrology Present	Yes	(No)	Is This Sampling Point in a Wetland	Yes	(No)
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 28, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Allison Oberc	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W11-P1

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Triticum aestivum	H	100	UPL	1. Glycine max	H	<5	UPL
2.				2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
_____Local Soil Survey Data
_____FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 2/1	—	—	SICL
8>18		5Y 5/1	10YR 6/8	FEW/PROMINENT	SICL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: A11 - DEPLETED BELOW DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	Yes	(No)			
Wetland Hydrology Present	Yes	(No)	Is This Sampling Point in a Wetland	Yes	(No)
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 28, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Allison Oberc	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WET LAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W11-PZ

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Carex stricta	H	30	OBL	1. Cornus stolonifera	S	<5	FACW
2. Phalaris arundinacea	H	20	FACW+	2.			
3. Aster lateriflorus	H	20	FACW-	3.			
4. Solidago gigantea	H	20	FACW	4.			
5. Salix exigua	S	25	OBL	5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100 %

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 6 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
__X__ Local Soil Survey Data
__X__ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4		10YR 3/1	—	—	SICL
4>18		N 3/0	—	—	CL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
___ Gleyed or Low-Chroma Colors	___ Other

Remarks: All DEPLETED BELOW DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Wetland Hydrology Present	(Yes)	No			
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 28, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Allison Oberc	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W11-P3

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Carex stricta	H	60	OBL	1. Helianthus grosseserratus	H	10	FACW+
2. Spartina pectinata	H	20	FACW+	2. Solidago riddellii	H	<5	OBL
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
__X__ Local Soil Survey Data
__X__ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2		10YR 3/3	—	—	SIL
2-12		10YR 3/1	—	—	SICL
12>18		5GY 5/1	—	—	C

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
___ Gleyed or Low-Chroma Colors	___ Other

Remarks: ALL DEPLETED BELOW DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No			
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Hydric Soils Present	(Yes)	No			

Remarks:

III

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: October 28, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly, Allison Oberc	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W11-P4

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Triticum aestivum	H	95	UPL	1. Verbascum thapsus	H	5	UPL
2.				2. Taraxacum officinale	H	<5	FACU
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0%

Remarks:

HYDROLOGY

_____Recorded Data (Describe in Remarks)
_____Stream, Lake, or Tide Gauge
__X__Aerial Photographs
_____Other
_____No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____Inundated
_____Saturated in Upper 12 inches
_____Water Marks
_____Drift Lines
_____Sediment Deposits
_____Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____Oxidized Root Channels
_____Water-Stained Leaves
_____Local Soil Survey Data
_____FAC-Neutral Test
_____Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 2/1	—	—	SICL
8 >18		10YR 3/2	—	—	SICL

Hydric Soil Indicators:

_____ Histosol	_____ Concretions
_____ Histic Epipedon	_____ High Organic Content in Surface Layer in Sandy Soil
_____ Sulfidic Odor	_____ Organic Streaking in Sandy Soils
_____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
_____ Reducing Conditions	X Listed on National Hydric Soils List
_____ Gleyed or Low-Chroma Colors	_____ Other

Remarks:

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present	Yes (No)	Is This Sampling Point in a Wetland	Yes (No)
Wetland Hydrology Present	Yes (No)		
Hydric Soils Present	Yes (No)		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: November 29, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W12-P1

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Medicago sativa	H	60	UPL	1. Taraxacum officinale	H	10	FACU
2. Triticum aestivum	H	20	UPL	2. Poa pratensis	H	10	FAC-
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: > 18 (in)
Depth to Saturated Soil: > 18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks: NO INDICATORS OBSERVED

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): SAYLESVILLE SILT LOAM Drainage Class WD

Taxonomy (Subgroup) TYPIC HAPLUDALFS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12		10YR 3/2	—	—	SIL
12>18		10YR 3/3	—	—	SIL

Hydric Soil Indicators:

_____Histosol
_____Histic Epipedon
_____Sulfidic Odor
_____Aquic Moisture Regime
_____Reducing Conditions
_____Gleyed or Low-Chroma Colors
_____Concretions
_____High Organic Content in Surface Layer in Sandy Soil
_____Organic Streaking in Sandy Soils
_____Listed on Local Hydric Soils List
_____Listed on National Hydric Soils List
_____Other

Remarks:

WETLAND DETERMINATION

	(Circle)		
Hydrophytic Vegetation Present	Yes	(No)	
Wetland Hydrology Present	Yes	(No)	Is This Sampling Point in a Wetland (Circle) Yes (No)
Hydric Soils Present	Yes	(No)	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: November 29, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: WD-P2

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	90	FACW+	1.			
2. Cornus stolonifera	S	10	FACW	2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:
Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: > 18 (in)
Depth to Saturated Soil: > 18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
__X__ Local Soil Survey Data
__X__ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-18		10YR 2/1	—	—	SICL

Hydric Soil Indicators:

___ Histosol	___ Concretions
___ Histic Epipedon	___ High Organic Content in Surface Layer in Sandy Soil
___ Sulfidic Odor	___ Organic Streaking in Sandy Soils
___ Aquic Moisture Regime	X Listed on Local Hydric Soils List
___ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	___ Other

Remarks: A12 - THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No			
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: November 29, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W12-P3

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Glycine max	H	90	UPL	1. Zea mays	H	10	UPL
2.				2. Taraxacum officinale	H	<5	FACU
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:
Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks: NO INDICATORS OBSERVED

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12		10YR 3/2	—	—	SICL
12>18		5Y 5/2	—	—	C

Hydric Soil Indicators:

_____ Histosol	_____ Concretions
_____ Histic Epipedon	_____ High Organic Content in Surface Layer in Sandy Soil
_____ Sulfidic Odor	_____ Organic Streaking in Sandy Soils
_____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
_____ Reducing Conditions	X Listed on National Hydric Soils List
_____ Gleyed or Low-Chroma Colors	_____ Other

Remarks:

WETLAND DETERMINATION

	(Circle)		
Hydrophytic Vegetation Present	Yes	(No)	
Wetland Hydrology Present	Yes	(No)	Is This Sampling Point in a Wetland (Circle) Yes (No)
Hydric Soils Present	Yes	(No)	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: November 29, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: WETLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W12-P4

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Phalaris arundinacea	H	100	FACW+	1.			
2.				2.			
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 100 %

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
__X__ Local Soil Survey Data
__X__ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MONTGOMERY SILTY CLAY LOAM Drainage Class PD

Taxonomy (Subgroup) TYPIC HAPLAQUOLLS Field Observations Confirm Mapped Type? (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10		10YR3/2			SICL
10+18		10YR3/2	10YR6/8	MANY/PROMINENT	SICL

Hydric Soil Indicators:

_____ Histosol	_____ Concretions
_____ Histic Epipedon	_____ High Organic Content in Surface Layer in Sandy Soil
_____ Sulfidic Odor	_____ Organic Streaking in Sandy Soils
_____ Aquic Moisture Regime	X Listed on Local Hydric Soils List
_____ Reducing Conditions	X Listed on National Hydric Soils List
X Gleyed or Low-Chroma Colors	_____ Other

Remarks: A12 - THICK DARK SURFACE

WETLAND DETERMINATION

	(Circle)			(Circle)	
Hydrophytic Vegetation Present	(Yes)	No			
Wetland Hydrology Present	(Yes)	No	Is This Sampling Point in a Wetland	(Yes)	No
Hydric Soils Present	(Yes)	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

Project/Site: Onyx Emerald Park Landfill	Date: November 29, 2005
Applicant/Owner: Onyx Waste Services	County: Waukesha
Investigator: Jerry Kelly	State: Wisconsin
Do normal circumstances exist on this site? (Yes) No	Community ID: UPLAND
Is the site significantly disturbed (Atypical Situation)? Yes (No)	Transect ID:
Is the site a potential problem area? Yes (No)	Plot ID: W12-PS

VEGETATION

Plant Species	Stratum	% Cover	Indicator	Other Plant Species	Stratum	% Cover	Indicator
1. Triticum aestivum	H	50	UPL	1. Daucus carota	H	10	UPL
2. Medicago sativa	H	40	UPL	2. Taraxacum officinale	H	<5	FACU
3.				3.			
4.				4.			
5.				5.			
6.				6.			
7.				7.			
8.				8.			
9.				9.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-). 0 %

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
__X__ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:
Depth of Surface Water: 0 (in)
Depth to Free Water in Pit: >18 (in)
Depth to Saturated Soil: >18 (in)

Wetland Hydrology Indicators
Primary Indicators
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required)
_____ Oxidized Root Channels
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (explain in remarks)

Remarks: NO INDICATORS OBSERVED

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetland Delineation Manual)

SOILS

Map Unit Name:

(Series and Phase): MARTINTON SILT LOAM Drainage Class SPD

Taxonomy (Subgroup) AQUIC ARGIUDOLLS Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color Munsell Moist	Concentration Color	Concentration Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12		10YR 3/2	—	—	SIL
12>18		10YR 3/3	—	—	SIL

Hydric Soil Indicators:

____ Histosol	____ Concretions
____ Histic Epipedon	____ High Organic Content in Surface Layer in Sandy Soil
____ Sulfidic Odor	____ Organic Streaking in Sandy Soils
____ Aquic Moisture Regime	>A Listed on Local Hydric Soils List
____ Reducing Conditions	____ Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	____ Other

Remarks:

WETLAND DETERMINATION

	(Circle)		(Circle)
Hydrophytic Vegetation Present	Yes (No)	Is This Sampling Point in a Wetland	Yes (No)
Wetland Hydrology Present	Yes (No)		
Hydric Soils Present	Yes (No)		

Remarks:

APPENDIX B

MINUTES FROM WDNR FIELD MEETING; NOVEMBER 12. 2007

NRC
Natural Resources Consulting, Inc.

119 South Main Street | PO Box 128 | Cottage Grove, Wisconsin 53527-0128
Ph: 608.839.1998 | Fax: 608.839.1995

www.nrc-inc.net

MEETING MINUTES

SUBJECT: Wetland Boundary Review / Navigability Review – Emerald Park Landfill, Veolia ES	**DATE/TIME:** Monday, November 12, 2007 / 9:00 am
PROJECT: Emerald Park Landfill Expansion	**LOCATION:** Emerald Park Landfill, Muskego, WI
ATTENDEES: Ms. Pamela Schense, WDNR; Mr. Jay Warzinski, Veolia ES, Mr. James Dunham, Veolia ES, Mr. Brian Karczewski, Natural Resources Consulting, Inc., Mr. Douglas Genthe, RMT, Inc., Mr. Mark Torresani, RMT, Inc.	

Meeting was held with Ms. Pamela Schense to field review:

1) The wetland boundaries within and adjacent to the proposed expansion footprint; and
2) The farm ditches within and adjacent to the proposed expansion footprint.

1) Pam Schense indicated that she did receive our opinion paper regarding navigability of the farm ditches within the expansion footprint. She said that she was not aware of the Department dealing with or addressing the applicability of a drainage district with relation to the navigability exemption for farm ditches. This discussion will continue internally within the WDNR.
2) General concurrence regarding the wetland boundaries was obtained. Small changes to the north side of wetland W-4 need to be made. I will visit the site on Monday, November 19th to make the necessary changes. Jim will have a survey crew follow up and locate the new flags. It does not appear that this change, considered minor in extent, will impact the proposed expansion.
3) Questions regarding a previously delineated area, wetland W-5, were addressed in the field. Pam agreed that there did not appear to be any indicators of wetland in the area. However, she would like a farm service agency crop slide review completed to show that the area was consistently farmed. If so, she will consider the area upland.
4) Pam agreed with arguments presented in the field that Pond P-6 is not wetland. This area is now considered non-navigable and non-wetland and does not require further evaluation during the practical alternatives analysis process under NR 103.
5) Questions were raised about the field, currently in forage production, located south of the east-west reach of D-2 and west of the north-south reach of D-2. This area has been delineated by Jerry Kelly as wetland in 1996 and in 2005. Pam agreed that the area does not appear to have the characteristics of wetland. She asked if the area could remain fallow in the Spring of 2008 and if we could revisit the issue at that time.
6) Questions were raised about another potential upland area within the heart of wetland 9 located to the south of the area addressed in point 5 and west of the north-south reach of D-2. This area appears to have upland characteristics which Pam agreed with in the field. However, limited information is available to clearly prove an upland condition since it is farmed and the soils are hydric. Pam is willing to consider its removal from wetland status. She will get back to me and let me know if this is possible from the Department's position.

7) If the argument regarding the area being part of a drainage district is not accepted by the WDNR, Pam agreed to previously marked locations of navigability for D-4, and our opinion of where navigability starts for D-2 (approximately 240 feet south of the 90 degree bend in D-2). This location needs to be surveyed and presented to Pam on a map for agreement. This should be done after any discussions regarding the drainage district issue play out.

APPENDIX C

FSA AERIAL REVIEW

NRCS-CPA-32W
(1-9-98)

WETLAND DOCUMENTATION RECORD
Remotely Sensed Data Summary

Appellant: Veolia ES Emerald Park County Waupaca State WI

Slide Reviewer Brian Kurczynski, NRCS Date 12/2/08

Site Identification No. _____ - _____ (Tract No. + Site No.)

for area previously identified as wetland W-5

Farm Service Agency Aerial Color Slide Data

Date (Mo./Yr)	Rainfall (in) +D/N/W (Apr-June ave. = _____)	Interpretation- (codes listed in box below)
1990	7.14 (W)	Y 4 6b
1991	3.62 (N)	Y 5 6a
1992	1.77 (D)	Y 4 6b
1993	5.73 (W)	Y 4 6b
1994	2.25 (D)	Y 5 6d with white (snow ground in edges)
1995	2.64 (N)	Y 5 6a
1996	4.76 (W)	Y 4-5 6e
1997	3.20 (N)	Y 4 6e
1998	4.17 (N)	Y 5 6a
1999	4.90 (W)	Y 1-3 6d
2000	5.39 (W)	Y 3 6c construction of biomass compost area began to the
2001	4.40 (W)	Y 5 6d affecting drainage to W-5 area
2002	3.75 (N)	Y 5 6d
2003	3.29 (N)	N
2004	5.35 (W)	N
2005	2.37 (D)	N
2006	4.46 (W)	N

Air Photo

Y = signal indicates wetness (+ = strong, - = weak)	**N** = NO wetness signature
CR = cropped (row crop or tilled)	**NC** = not cropped (hay, pasture, idle, etc.)

Feature	Color	Manipulation	Other
1 = water	6a = dark green	7a = ditched	write explanation
2 = mud flat	6b = light green	7b = tiled	
3 = bare spot	6c = yellow	7c = filled	
4 = drowned crop	6d = brown	7d = tree/brush removal	
5 = planted late	6e = black	8 = plowed/tilled	

Does Slide/Air Photo data indicate the site is a wetland? (y/n) _____

#____years out of #____years observed have wet (Y) signatures.

Normal annual circumstance in area surrounding W-5

Farm Service Agency Aerial Color Slide Review

Veolia ES Emerald Park Landfill, LLC

T-5-N, R-20-E, Section 36; City of Muskego, Waukesha County, Wisconsin

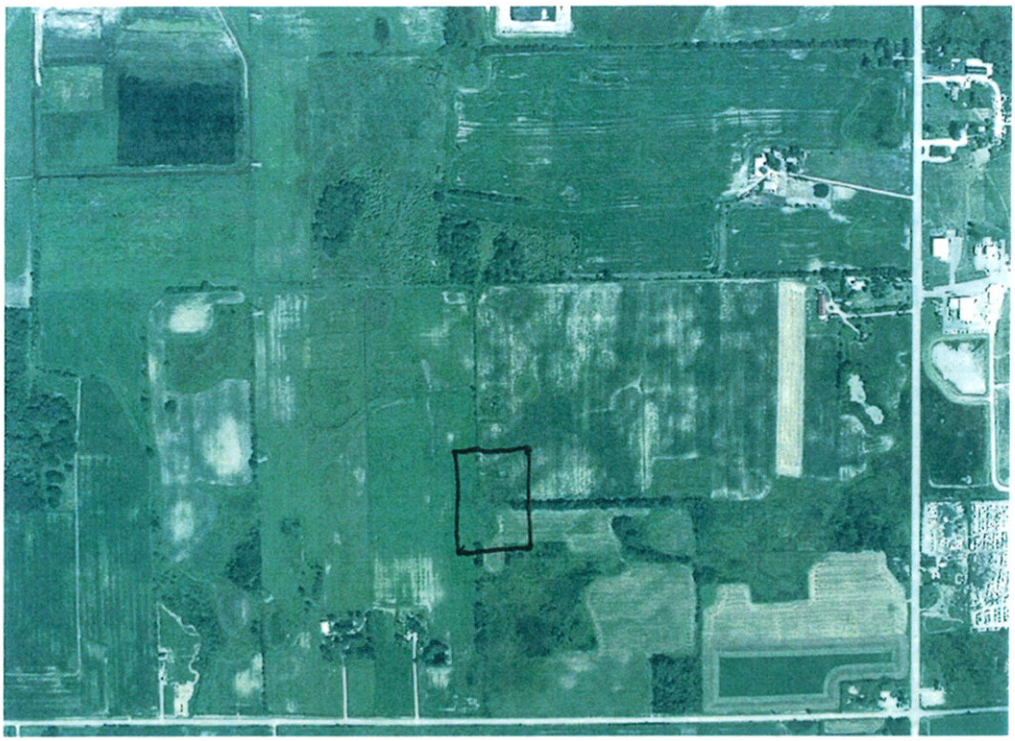
Description of interest: Area identified as Wetland W-5 in previous wetland investigations.

Year	Monthly Rainfall in Inches *			Total	Mean (April - May)	Relative Wetness	Cropped?	Wetness Signature?
	April	May	June					
1981	4.48	1.08	2.84	8.40	2.80	N		
1982	4.07	4.41	2.67	11.15	3.72	N		
1983	2.68	3.96	2.83	9.47	3.16	N		
1984	3.20	4.57	5.90	13.67	4.56	W		
1985	1.48	1.82	2.28	5.58	1.86	D		
1986	1.88	2.50	6.08	10.46	3.49	N		
1987	4.20	3.50	1.73	9.43	3.14	N		
1988	3.26	0.69	1.33	5.28	1.76	D		
1989	1.98	3.53	2.60	8.11	2.70	N		
1990	1.98	5.49	5.84	13.31	4.44	W	CR	Y
1991	3.97	2.35	4.53	10.85	3.62	N	CR	Y
1992	2.82	0.93	1.55	5.30	1.77	D	CR	Y
1993	7.14	3.46	6.59	17.19	5.73	W	CR	Y
1994	1.26	1.30	4.20	6.76	2.25	D	CR	Y
1995	4.15	3.14	0.62	7.91	2.64	N	CR	Y
1996	3.10	2.50	8.69	14.29	4.76	W	CR	Y
1997	1.48	3.45	5.26	10.19	3.40	N	CR	Y
1998	3.64	3.72	5.16	12.52	4.17	N	CR	Y
1999	6.38	5.23	6.10	17.71	5.90	W	CR	Y
2000	2.84	8.54	4.78	16.16	5.39	W	CR	Y
2001	3.80	4.79	4.61	13.20	4.40	W	CR	Y
2002	4.15	2.48	4.63	11.26	3.75	N	CR	Y
2003	1.97	7.14	2.56	11.67	3.89	N	CR	N
2004	2.43	10.40	3.23	16.06	5.35	W	CR	N
2005	1.32	4.03	1.67	7.02	2.34	D	CR	N
2006	4.30	5.70	3.38	13.38	4.46	W	---	N
30% chance less than	2.39	2.09	2.84	7.32	2.44	---	---	---
30 Year Average	3.25	3.14	3.99	10.38	3.46	---	---	---
30% chance more than	3.77	3.81	4.98	12.56	4.19	---	---	---

* Oconomowoc Weather Station (476200), Waukesha County, Wisconsin

DRY
NORMAL
WET

Farm Service Agency Crop Compliance Slides



1990

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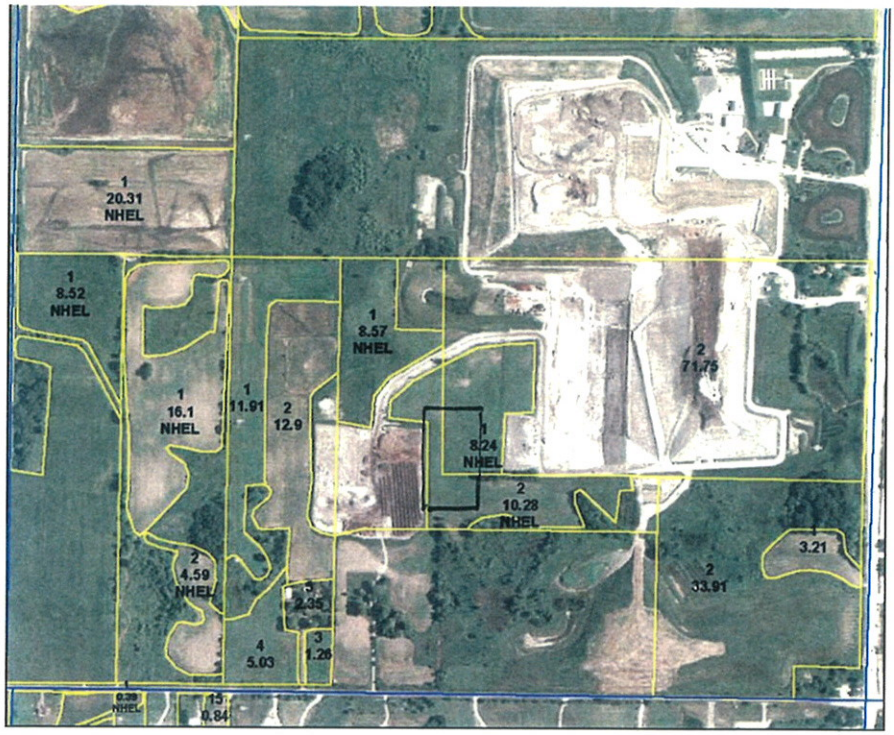
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1.28
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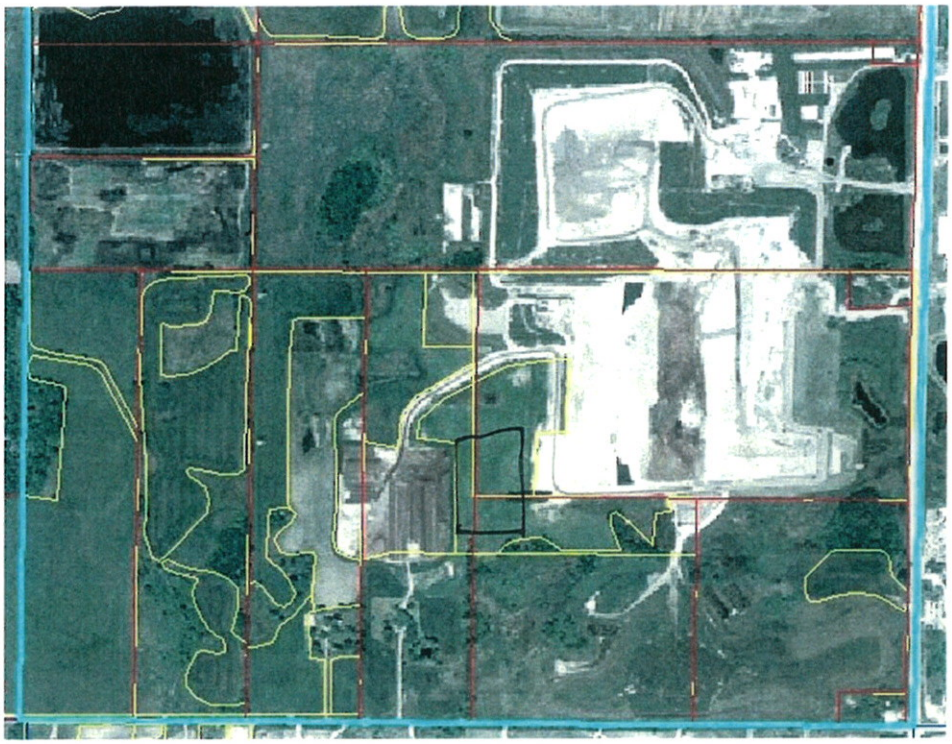
2005



2006